so extensive that several years must elapse before the work is completed. There will be seven volumes in all, having the following subjects and editors :—Arithmetic and algebra, Prof. W. F. Meyer; analysis, Prof. H. Burkhardt; geometry, Prof. Meyer; mechanics, Prof. F. Klein; physics, Prof. A. Sommerfeld; geodesy and geophysics, Prof. E. Wiechert; astronomy (under arrangement); history, philosophy, and didactic questions, Prof. Meyer. The work is published under the auspices of the Munich and Vienna Academies of Science, and the Göttingen Society of Sciences, and no mathematical library will be complete without it.

SIR JOHN LUBBOCK'S book on "The Scenery of Switzerland, and the causes to which it is due" has been translated into Italian by Dr. L. Scotti, and is published by Signor U. Hoepli, of Milan, as "Le Bellezze della Svizzera, Descrizione del Paesaggio e sue Cause geologiche." The first English edition was noticed in NATURE of September 10, 1896 (vol. liv. p. 439); the translation is from the third edition, published in 1898.

THE use of acetylene for lighting rooms upon a commercial scale renders its purification from sulphuretted and phosphuretted hydrogen imperative, on account of the injurious effects of the products of combustion of these impurities in a confined space. Numerous substances have been put forward by different inventors as effecting the desired purification, among which may be mentioned ferric chloride, chromium sulphate, petroleum, benzene, chromic acid, bleaching powder, and cuprous chloride. The ideal purifier should remove the impurities as completely as possible, should not absorb acetylene itself, and should not communicate any objectionable properties to the purified gas. The current number of the *Moniteur Scientifique* contains abstracts of numerous papers upon this subject. From these it would appear that solutions of metallic salts do not wholly remove the impurities, chromic acid and chloride of lime solutions being the only substances that effect a complete purification, and of these the former is preferable, as with the latter explosions have occurred, probably owing to the formation of chloro-acetylene.

THE additions to the Zoological Society's Gardens during the past week include a Diana Monkey (*Cercopithecus diana*) from West Africa, a Common Squirrel (*Sciurus vulgaris*), British, presented by Mrs. Morris; a Common Paradoxure (*Paradoxurus niger*) from Java, presented by Mr. E. E. Hewens; a Boddaert's Snake (*Drymobius boddaerti*), a Chequered Elaps (*Elaps lemniscatus*), a Rat-tailed Opossum (*Didelphys nudicaudata*) from Trinidad, presented by Mr. Leon Bernstein; a Summer Snake (*Contia oestiva*), a Mexican Snake (*Coluber melanoleucus*), six Menobranches (*Necturus maculatus*), five American Green Frogs (*Rana halecina*) from North America, deposited.

OUR ASTRONOMICAL COLUMN.

ASTRONOMICAL OCCURRENCES IN JUNE.

June 2. 8h. 33m. to 9h. 35m. Moon occults κ Cancri (mag. 5·0).
4. 9h. 49m. to 10h. 45m. Transit of Jupiter's Satellite III. (Ganymede).
7. 9h. 58m. to 10h. 55m. Moon occults the star D.M. − 10°, 3570 (mag. 6·0).
11. 8h. Jupiter in conjunction with moon. Jupiter 1° 29′ North.
11. 11h. 23m. to 12h. 43m. Transit of Jupiter's Satellite III. (Ganymede).
12. Partial eclipse of the moon.
13h. 16·2m. First contact with penumbra.
15h. 24·2m. First contact with shadow.
15h. 27·6m. Middle of the eclipse.
15h. 31·0m. Last contact with the shadow.
June 12. 17h. 39·0m. Last contact with the penumbra.
It will be a very small eclipse, the proportion of the moon's surface covered by the earth's shadow being equal to only one-thousandth part. The fainter outlying shadow will, however, cover a large region, but will be only faintly discernible.
13. 7h. Mercury in conjunction wtih ε Geminorum. Mercury, 0° 3′ South.
13. 9h. 40m. to 10h. 52m. Moon occults the planet Saturn.
15. Venus. Illuminated portion of disc, 0·144. Mars, 0·962.
16. 8h. 48m. Jupiter's Satellite IV. (Callisto) in conjunction south of planet.
19. Saturn. Polar semi-diameter, 17″·0. Outer minor axis of outer ring, 18″·87.
23. 5h. Saturn in opposition to sun.

SEARCH EPHEMERIS FOR EROS.—The following is continued from the ephemeris by J. B. Westhaver (*Astronomical Journal*, No. 479, vol. xx. p. 185).

Ephemeris for 12h. Greenwich Mean Time.

1900.	R.A.	Decl.	Mag.
	h. m. s.	° ′ ″	
June 2 ...	23 57 2·6 ...	+4 22 22 ...	
4 ...	0 36·1 ...	4 57 6 ...	12·9
6 ...	4 8·7 ...	5 31 57 ...	
8 ...	7 40·7 ...	6 6 57 ...	12·9
10 ...	11 11·9 ...	6 42 6 ...	
12 ...	14 42·5 ...	7 17 24 ...	12·8
14 ...	18 12·4 ...	7 52 51 ...	
16 ...	21 41·7 ...	8 28 27 ...	12·7
18 ...	25 10·3 ...	9 4 12 ...	
20 ...	28 38·1 ...	9 40 5 ...	12·7
22 ...	32 5·3 ...	10 16 8 ...	
24 ...	35 31·8 ...	10 52 19 ...	12·6
26 ...	38 57·5 ...	11 28 39 ...	
28 ...	42 22·4 ...	12 5 8 ...	12·5
30 ...	45 46·6 ...	12 41 47 ...	
July 2 ...	49 10·0 ...	13 18 34 ...	12·5

Prof. Howe is reported to have discovered the planet in the constellation Aries.

OXFORD UNIVERSITY OBSERVATORY.—In the twenty-fifth annual report of the Savilian professor at Oxford, Prof. H. H. Turner briefly reviews the history of the institution. The late Prof. Pritchard, in 1873, successfully appealed to the University for facilities to institute the means of carrying on astronomical research, but the plans originally projected being modified by the presentation of Dr. De la Rue's instruments, the building was not finished until 1875. However, notwithstanding his advanced age, Prof. Pritchard carried out before his death two important researches, the *Uranometria Nova Oxoniensis*, and the determination of stellar parallaxes; and initiated a third, the share of the Observatory in the International Astrographic Chart.

During the six years of Prof. Turner's directorship the energies of the Observatory have been chiefly directed to carrying out, as expeditiously and economically as is consistent with the necessary accuracy, this great work of fundamental astronomy. One or two more years will be required to complete it, but the work is at present as well advanced as at any of the other eighteen observatories which are collaborating. In addition, the Observatory has been utilised as an educational institution for the benefit of the students of the University.

For the Astrographic Catalogue, 736 plates are now measured, and 705 completely reduced, out of the 1180 falling to the share of the Observatory. Measurements have been made on a plate supplied by Prof. E. C. Pickering to determine the optical distortion of a photographic doublet. A preliminary discussion of these measures indicates a distortion varying as the cube of the distance from the centre of the plate; this somewhat surprising result, if confirmed, will enable the reduction of photographs of star fields of wide angle to be made with great accuracy.

ROUSDON OBSERVATORY, DEVON.—Sir C. E. Peek sends us another of his pamphlets (No. 6), containing the detailed particulars of the observations of variable stars during the past decade. The observations of T Cassiopeiæ extend over the ten years 1889–1898, and those of R Cassiopeiæ from 1887–1898. At the end of the observation the light curves of the two stars are shown.

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